

AVIATION

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The Spokane, Wash., airport where the National Air Races are to be held Sept. 23, 24

VOLUME
XXIII

SPECIAL FEATURES

NUMBER
8

THE LOCKHEED "VEGA" COMMERCIAL PLANE
DESCRIPTIONS OF THE DOLE DERBY PLANES
GERMAN AIRMEN ESTABLISH ENDURANCE RECORD

AVIATION PUBLISHING CORPORATION

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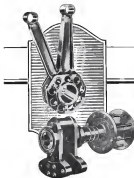


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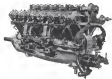
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1925
World's altitude record of 29,000 feet, by Calhoun, flying a Bileau-Spad, with 450 H. P. engine.

3,900 miles in 5 days, by Aershaert and Carol, (Circus des Capriles), in a Ponce XXV, with 450 H. P. engine.

4,500 miles in 6 days, 18 hours, Paris-Peking by Pelletier-Duery and Carol in a Breguet with 450 H. P. engine.

4,900 miles in 9 days, (9 stops) Tokio-Cape-hagen by Captain Barred flying a Fokker with 450 H. P. engine.

4,600 miles in 41 hours 45 minutes, total time, Paris-Buenos-Tokio-Cashmere-Paris by Pelletier-Duery and Gossens in a Ponce 25 with 450 H. P. engine.

1927
15,000 miles in flying boat across Africa by Capitaine de cavalerie Guibaud and mechanic Rupan.

Crossing South Atlantic, from Bordeaux to Sao Francisco de Noronha, 9,600 miles in a new step night flight of 17 hours, 36 minutes by Major Samuel de Boires.

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Index to Contents

NEWS ARTICLES AND ITEMS

German Airman Establishes New World's Endurance Flight Record	418
Federal Licenses Granted to 260 Pilots	419
Philadelphia Offers \$25,000 Prize	419
Commerce Trans-Atlantic Pilots Chosen	419
First Day Postponement of the Dole Derby	421
Plan Airplane Service for Ocean Landing	424
Plans Complete for Round the World Flight	425
Start Pilots to Compete at Tenerife	425
No Permits Granted to Fly Into Mexico	425

FEATURES AND DEPARTMENTS

Editorials	413
Descriptions of the Dole Derby Planes	431
Aircraft Facts and Figures	419
The Lockheed "Vega" Commercial Phase	422
The National Airplane Model Contest	424
Pictures in the News	426
Aircraft Trade News	428
Wide Ship	430
Aviation and Airways	432
U. S. Air Forces	438
Publisher's News Letter	442

ADVERTISING INDEX	441
WHERE TO FILE AIRCRAFT SERVICE DIRECTORIES	442
CLASSIFIED ADVERTISING	443

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With the Editor

If by the time these few lines are being read the Dole Derby, from the municipal airport at Oakland, Calif., to the Hawaiian Islands, will be an ancient history and the \$35,000 in prize will have been won and lost. As the hour set for the start of the air race approaches some planes with their pilots and navigators are ready to speed down the 7,000 ft. runway and take the air. Noon of Aug. 12, the original date of the start found only two planes qualified to leave. By mutual consent the start was postponed four days, and during that space of time the other entries qualified.

On page 414 of this issue of AVIATION is to be found descriptions of the various planes entered in the Dole Derby, including descriptions of those that met with disaster while undergoing test flights. The majority of the entries are monoplane with land undercarriages and are powered with single Wright Whirlwind engines.

CONSISTENCY!

The Lindbergh, Chamberlin, Maitland and Byrd flights had one common factor—the Wright Whirlwind Engine.

The consistent selection of this engine by these world-famous fliers—as well as by many others whose page in history is not yet written—is equalled only by the flawless operation of the engine, whose uniform performance had played a major part in these epochal events.

This choice was not haphazard. It was logically based upon the actual performance of the engine itself. Its record of over 4,635,000 miles flown during 1926, in civil and military service, is alone sufficient to justify universal confidence.

Send for Bulletin 17R.



WRIGHT

AERONAUTICAL CORPORATION

Patterson, N. J., U. S. A.



Vol. XXIII

AUGUST 22, 1927

No. 8

A Letter That Agrees

To the Editor:

I have read your very interesting editorial, "Perplexing the Buyer", and I heartily agree with the sentiment expressed.

It is very true that should the purchaser trust that planes receive a standard test that would greatly solve the problem but it seems to me it will be a long time before this is practical or possible and furthermore I believe the manufacturers should take the initiative in an excellent selling policy.

If a number of manufacturers of commercial airplanes together agreed that each new type should have a standard test before an unprejudiced board, it would practically force the other manufacturers to take similar steps before the public would recognize their advertised performance.

The logical organization for handling such tests would be the Department of Commerce. The Department has a number of inspectors who are located throughout the country so the manufacturer on the west coast could receive as prompt service as those in the interior or on the east coast, and it would not be an extremely difficult matter to draw up a standard set of tests which could be conducted at the time the type certificate on the ship was granted. This could be done without a great deal of expense and without greatly overburdening the Department of Commerce.

Of course the buyer is already protected to a much greater extent than before the Department was organized as the ship has to be licensed under the Department and the purchaser knows that the ship is at least airworthy. Actual performance data seems to be the next step and I believe your magazine is taking a good course in promoting some solution of this difficult problem.

C. B. Jones
Curtiss Flying Service, Inc.

One That Disagrees

To the Editor:

In reference to the editorial "Perplexing the Buyer," that appeared in the Aug. 1, issue of AVIATION, I do not believe this matter is as important as this article indicates. Performance (speed and climb) is not at all the only considerations involved in purchasing aircraft. The qualities which may be grouped together as the word "reliability" are much more important consequently and cannot be determined by "flight testing." Very often, after all sorts of wonderful performance test results of a new type of ship, all sorts of

additions and changes subsequently found necessary to make it satisfactory for the use to which it is put, completely invalidate the original performance data. Performance data, even made under uniform conditions by the same establishment, will not tell the prospective buyer its dissimilarity between different types of ships as their capacity for giving him the service he requires.

Also the difference in equipment, specified or installed by different buyers, on the same type of ship, makes it impossible to arrive at a "standard performance." Performance tests made by a central authority on "strapped," unskilled or not fully equipped ships, or a ship only equipped for one particular purpose, would be just as useless for the "perplexed buyer" as the present spurious record with some manufacturers of publishing doubtful or equally accurate calculation results. Of course, I sympathize thoroughly with the thought expressed in the article, but an actual result in practice would not be time hoped for.

Robert Noehren
Atlantic Aircraft Corp.

Passenger Carrying at Night

THE SEARCH for a new sensation in the line which develops most of the "joy happen" business at the various flying fields. Although a few passengers want to repeat their ride whenever they have enough money, the majority having had the new sensation are satisfied and will not ride again for some time. On a recent visit to Haulley Field a new idea was suggested which should considerably increase the number of passengers who repeat their ride.

Haulley Field is the point of departure for the night air mail to Chicago and also the northern terminus of the Colonial Airlines. Every night the arrival and departure of these planes and the illumination of the field draws a large crowd of automobiles and sightseers. As the field is well lighted it has been decided to carry passengers at night for short flights and the experiment is one which is worth watching.

There are many reasons why night "joy happen" should prove popular and therefore profitable to the operator. The first is the novelty of the sensation. People who have tired of riding in the day time would certainly be desirous of trying a night flight. Then again especially in smaller towns there is little to be done in the evening and crowds comparable to those riding skills on Saturdays and Sundays should be available. Lastly the air at night is invariably much smoother than in the day time which would be an inducement to more passengers.

Descriptions of the Dole Derby Planes

Majority of Entries Are Monoplanes With Landing Gears And Are Powered With Single Wright Whirlwind Engines

A STUDY of the planes entered in the Dole Derby gives good indication that the monoplane has come to stay. The trend in American design for long run ship planes seems to favor a single engined monoplane with a high lift wing set at the top of the fuselage. Entry entry in the race is a land plane though some have sea worthy fuselages and detachable landing gear. It is interesting to note that the full cantilever wing, which until a few years ago was only an engineering subterfuge, is now coming into more common use. Some of the planes in the Derby are standard production models specially equipped and fitted for the long flight. The others were designed and constructed specifically for the race. Among these was the most original plane in the race, the Bryant monoplane, which was crashed during a test flight. It was powered with two Bristol Lucifer engines in tandem and an out rigger tail structure. Again, as is usually every recent case in this country where numerous planes have been gathered, the Wright Whirlwind engine predominated. The Bryant entry was the only plane entered in the Derby that was not powered by a Wright Whirlwind. Aside from the Bryant plane, the only other machine equipped with more than two engines was the International biplane, which was also crashed.

One of the fastest and best streamlined entries in the Derby at the Lockhead Viper, a Whirlwind engined monoplane with a monocoque fuselage. This plane which is described in detail elsewhere in this issue, was entered by George Herbert of San Francisco. The "Golden Eagle," as it is called, was built by the Lockhead Aircraft Co., of Los Angeles. It was completely equipped for the field and every passenger cabin



Travel Air plane "Workman." Pilot, Arthur C. Doherty, co-pilot, Lieut. W. H. Davis, U.S.N.

segment needed. The landing gear is detachable in an emergency by pulling a lever in the cockpit. It is claimed that the Viper could stay aloft as long as the pilot held together. To each wing tip a large rubber-cloth pantoon was fastened by means of a pulley at the end of the lower surface. The plywood covering of the wing was then replaced, held in place with only sufficient strength to maintain an airtight seal. The rubber flaps in the wing and those in the fuselage were connected by tubing in a continuous of compressed carbon dioxide. By a special nozzle, designed by John K. Northrup, chief engineer for the Lockhead company, 80 per



In the background is the Bristol Whirlwind monoplane in which Harry Gilling with pilot parts in the Travel Air monoplane of Giffin and Stanley, and at the Lockheed Viper of the Los Angeles "Sunbeam."

PRACTICE WHAT YOU PREACH — USE THE AIR MAIL.



An arm of the military design. The Bryant monoplane powered with two Bristol Lucifer engines. The plane was crashed during a test flight.

cent of air will be sealed in when filling the bags with carbon dioxide.

In the event of a forced landing the legs in the wing and body can be inflated in less than a minute. An auxiliary hand pump is carried to keep the pressure up after the carbon dioxide has been used up. The wing flaps are more than enough to float the weight of the engine. Together with the gas tanks, which are provided with dual valves, the flotation system gives a supporting space of 125 cu. ft., sufficient to float 500 lb. This is nearly twice the weight of the plane, fully loaded, at the take off.

For the long flight there are two 90 gal tanks in the wings. In addition to two 100 gal tanks in the fuselage between the pilot and navigator. The navigator's compartment in the rear of the fuselage is fitted with chart table, clock, sextant, sextant, and supplies, all stored so as to leave plenty of room. Above the navigator's head is a hatch for observation. There are side windows to provide plenty of light. The plane was equipped with both a transmitting and receiving apparatus.

Schooler Like Fuselage Design

An excellent plane of home-building is that designed for Lieut. Norman A. Goldard, U.S.N.R., and Lieut. K. C. Hawken. It is a closed cabin monoplane with original cantilevered wings and powered by a Wright Whirlwind engine "22 Euxine." The Euxine—on it was tested, had completely new lines. It is said that the structural form of the fuselage was patterned after that of the Pacific submarine. With nearly 160 men-sections of the school, from as many points of view, Goldard set to work and produced his first monoplane. First powered with a 150 hp. Hispano-Suiza engine, the plane is claimed to have turned up 105 m.p.h. Goldard and Goldard tested the plane thoroughly and then decided that to take care of the necessary extra weight for the Dole Derby he would power the plane with a 225 hp. Wright J5C Whirlwind.

Both pilot and navigator—Goldard and Hawken—themselves "sit under" the gas tanks. These with oil tanks hold 280 gal. one in the wing, one directly in front of the pilot and behind the engine and two built into the fuselage alongside the charts. This is a novel method of fuel placement, but permits an even distribution of the load.

El Euxine is fitted with dual control, the navigator's stick being placed slightly forward to be out of his way when necessary required him to take it. The worst power of the radio equipment had not been demonstrated prior to the time this was written, but with his check-out on Lakehurst Blimp in his last experiment talked with an amateur in Avon-

trides—from San Diego. All the radio equipment used by Euxine is of his own construction, being modified from 35 v. ry. dangle.

As for the plane, the fuselage—30 ft. over all—is supported from a 4-in. wing of Clark Y section modified by the designer. The plane has a wing loading of 17.3 lb. and a power loading of 19.5 lb.

The two engined Bryant monoplane was perhaps the most out of the ordinary design of any of the entries in the current derby.

Designed by Robert A. Bryant of Los Angeles, who also supervised the construction of the plane, this full cantilever monoplane had a monocoque fuselage, cantilevered, strengthened with engine at both ends of the fuselage. The tail



The monocoque "Viper" piloted by Martin J. J. with pilot Scholten as navigator.

surfaces were supported by an out rigger structure. The engine was a little more than the length of the chord in this view, and the wing, two Bristol Lucifer engines were used, one under and the other tractor with pilot and navigator between. The engine was of the three cylinder radial type, with development 120 hp. Both engine and cylinders were easily cooled and access to carburetor and accessories was easily had through doors in the front and rear of the cabin, which was actually enclosed with non-electrically glass and latched by pilot and navigator set side by side and a hinged wheel made it easy to pass the control from one to the other. The instrument board carried the usual standard instruments re-

The Lockheed "Vega" Commercial Plane

High Lift Wing Monoplane With Monocoque Fuselage, No External Bracing and Powered With a Single Wright Whirlwind Engine

BY IMPROVEMENTS in design without radical departure from approved standards of engineering the engineers of the Lockheed Aircraft Co., of Los Angeles, have produced a plane that has a performance within reach of a commercial machine. At all places the absence of all external bracing is immediately apparent. Upon an unusually streamlined monocoque fuselage is mounted an entirely braced wing. The tail surfaces are also of full monocoque construction, giving a plane with a minimum of possible weaknesses. George Elwood entered a Lockheed "Vega" monoplane in the Dole Derby. This plane, which normally carries six passengers and pilot, was equipped for that long flight, to carry only pilot and navigator. It was this same plane, the "Golden Eagle" powered by a Wright Whirlwind engine that broke a record for commercial aircraft with three passengers in addition to the pilot and 600 lb. pay load, it was flown from Oakland, to Los Angeles, Calif., in three hours and five minutes. On its trip north the plane covered the 460 and miles in three hours and twenty-five minutes with a pay load of 1500 lb.

A monocoque fuselage is an American commercial plane is to achieve none that it might claim to equal none. Monocoque construction in this manner has been confined almost entirely to racing planes. Perhaps the greatest objection to this type of structure for commercial work is the excessive cost. To illustrate, a monocoque fuselage is a long and tedious process, as it requires fitting and gluing each strip over the form on which the fuselage is built.

By a patent process, awarded by Mitsuba Langford, in favor of the Lockheed hydraulic tank, the fuselage is built up in sections and glued together as a unit in a large machine mold under a pressure of 150 tons. The mold is a wooden hemisphere shell having a high strength weight and a life, with the proper cone, previously constructed by time.

Each of these fuselage sections or shells is attached to a laminated spruce wing which holds the plywood applied in place. By joining these shells together a strong unit, rigid at both ends, results. However, wings are used of proven construction, such as the spruce monocoque, wing mount, leading edge attachment, and tail. These features may lead to absorb the leading edge structural loads and distribute these loads evenly throughout the covering or shell.

Both ends of the shell, that is the case and tail of the plane, are finished with aluminum to complete the structural struc-

ture. The aluminum at the nose forms part of the engine cowling. This section of the plane, enclosing the engine, is built entirely of metal, a steel tube mount being used to carry the Wright Whirlwind engine. Carburetor drains, air intake and exhaust ducts are carried outside the cowling, which is easily removable for inspection or repair.

The full fuselage wing levers in both plan and cross section. It is built up of two spruce spars of the box type and ribs of girder construction with spruce ray strips and square plywood webs. From these two spars, which are the entire length of the wing, the fuselage is suspended by 16 steel bolts 3/16 in. in diameter. These bolts are spaced down to the beam at four points about the center of gravity. The main wing struts are provided with eyes for leading edge ribs spaced 30 in. The wing has been steel tested in 14,000 lb. without injury.

The entire wing is covered with 3/32 in. spruce plywood. This covering, which adds so greatly to the strength of the structure, does away with the necessity of permanent bracing. The main objection to this type of structure is the weight, though the manufacturers claim that it compares favorably with that of the conventional wood and fabric type.

A Detachable Landing Gear

The same type of rigid plywood construction is used for the landing gear. The wheels are attached to the wing throughout their entire length by a continuous downhaul beam. All movable control surfaces are carefully designed to reduce the gap between the movable and fixed sections to a minimum. By means of two screws moving in tracks the leading edge of the stabilizer is adjusted in flight. All controls are internal and operate by cables that run over pulleys and in channels under the floor. Inspection or repair is facilitated by having non-breakable glass windows.

In case of an emergency the landing gear is detachable by pulling a lever in the cockpit. Standard equipment includes 20 in. by 2 in. surplus wheels though larger wheels may be substituted for use on soft fields. The landing gear is of very close design being of the divided type with air struts extending to the rear, 7 1/2 in. struts, and a central strut, carrying the shock absorber unit. Heat treated chromalloy aluminum steel is used for the landing wheels. The alloy steel tube tail steel is fitted with a hardened steel shoe, rubber spring and



Side view of the Lockheed "Vega" monoplane. Note the monocoque wing leading to the tail section and the fuselage.

equipped with a landing device to prevent rebound. The shoe is removable after use and becomes worn.

Inside the furring of the wheels, so as to reduce the drag, are the Lockheed hydraulic brakes. These brakes, which operate by means of the rubber pads, increase the braking action as air and proportionally decrease it as the shoe when operated with the brakes on. When desired both brakes may be locked at one time.

Fuel is carried in two 50 gal. tanks between the wing beams above the fuselage, giving a simple gravity feed to the engine. These tanks, which are provided with dump valves, provide a running range of over 2000 mi. The normal leakage is 50 gal. giving a range of approximately 500 mi.

The pilot's cockpit, just in front of the wing, affords an excellent view as well as ample protection to the pilot in case of a nose over. The cockpit may be closed in when desired by a sliding transparent cover. The cockpit is connected to the passenger cabin which is constructed due to this particular type of fuselage construction. It provides for four passengers and baggage or six passengers without baggage. This compartment has a volume of 180 cu. ft. giving ample space for carrying cargo with waste removed.

Following are the manufacturer's specifications for the "Vega":

Wing area 375 sq. ft.
Span 53 ft.
Length 27.5 ft.
Weight, empty 1,630 lb.
Gross weight 3,180 lb.
Gross weight 3,180 lb.
Best rate of climb 1,100 ft. per min.
High speed 210 mph

Cruising speed 110 mph
Landing speed 40 mph
Climb at sea level 1,000 f.p.m.
Gasoline consumption at cruising speed 32 mi. per gal.

The manufacturer states the above performance figures were made from actual flight tests and are guaranteed to within plus or minus 5 per cent.

Program Arranged for Air Mail Conference

According to an announcement made recently by Postmaster General Navy, a definite program outlining America's position in regard to the handling and treatment of international air mail has been mapped out and will be presented to the Air Mail Conference being held by the International Bureau of the Universal Postal Union when it convenes at The Hague on Sept. 1.

America will be represented at the conference by W. Irving Glavin, second assistant postmaster general, and E. August White, representative of Foreign Affairs of the Post Office Department.

The United States will advocate, among other things, uniform postage and speed rates and transportation charges with all countries having air mail service, the transit rates to be based on a moving system using rates of one thousand miles or less.

Under such a case as aircraft are able to make regular and dependable trips across the ocean, it will provide shore-to-shore and ship-to-shore service based on the service now in operation in the United States out of Seattle and New Orleans.



Front corner view of the Lockheed "Vega" monoplane parked in the Dole Derby.



Photograph of the wing structure of the Lockheed 'Vega' monoplane. The steel weight of the wing is shown in place.

Descriptions of the Dole Derby Planes

Coal from mine 417

Martin Jensen's "Aloha" embodying only a few more refinements in construction as compared with the Irving entry, the "Palau Flyer." Both are of welded steel fastings construction, with wood and fabric work carried on built up spruce beams. All control surfaces are of welded tubular steel construction. They are similar to the plane on the Varney Construct Air Show Boats No. 5.

The fuselage is framed with light tubular steel arch frames at top and bottom and spruce strips at the sides, the work being very carefully done so that floor spaces in bed are free. Cut at any angle will show a continuous circulating surface curve without any mechanical shakiness.

The engine is placed a foot higher than in most similar craft and the stabilizer nearly two feet higher. The object of this is to remove the stabilizer from the propeller blast, thus reducing the pressure necessary to be exerted on it to keep the plane in balance. This deals with the flaring, adds considerably to the anticipated speed of the craft. It has been stated that Mager Irving's entry in the Dixie flight was timed at 130 m.p.h. during a short test.

The pilot's seat is mounted on a sliding steel frame and can be adjusted to any height convenient, the position being changeable in flight.

The fuselage tubing is drawn polyethylene steel. After manufacturing, the interior of the fuselage was not protected by filling with inerted oil at high temperature through breather holes provided for that purpose. Where there are butt joints, joints are welded in to give a very sturdy structure. Where there are telescopic joints, as in tapering off the instrument, the smaller tubing is inserted into the larger to a point beyond the alignment butt joint. Thus all stress and strain are borne jointly, on both sections of the structure.

Extra heavy gussets are used at all pin joints, such as those where masts or landing gear struts are attached.

Leading gear is of the elastic type, with cord wrapped around logs on the stationary and sliding sections of the gear. Coupling is streamlined over this in the conventional manner.

Wings are of wood, with welded steel fittings for steel-braced sections, which latter are controlled by push-pull rods.

worked through ball anodes by solder. Hils are built up of spruce, steamed and bent to shape, with spruce internal stringers, glued, bradded and protected with plywood. Simple wongrills have been tested to a bearing stress of 600 lb. per sq. in.

The wing beams are of spruce, built up and the wing is covered with steel cable. The construction is very stiff. Even before construction of the internal bracing, wings lifted at

The leading edge of the wing is surfaced with plywood, over which the fabric is drawn.

In Irving's plans, the added gasoline tanks are two in number and placed one on either side of the fuselage, behind and

Instruments carried include earth auger/compressor, tools,

The Swallow monoplane, "Duke Sport" is an externally

beared monoplane with a welded steel tube fuselage and



The International Olympic "Fede of Los Angeles" which was created by a few days before the scheduled start of the Los Angeles

wooden wings. The wings are built up of box splines and wooden ribs covered with fabric. The base wing struts are

would not be covered with noise. The last thing about the exceptionally wide beam (used to cover a fact). It is said that they give considerable extra lift.

This plane is entered for the \$10,000 Backwood prize for a flight from Dallas to Houston. Even better, it's also free.

Dallas to Oakland but was compelled to make a stop at Fresno, Mont. Cal. As he is allowed only three stops between Dallas

and Hongkong, he may not continue from Honolulu to the Chinese coast but may return to Dallas and re-start on the

Ms. Trumb had planned to accompany her son-

board and sat in his navigator but the Easternwood committee ruled her out as being under 70 years of age. Consequently,

business of the Brown plane exposed a suspicion in Oakland. It was J. H. Edelwald, a resident of Hayward, a suburb of

August 22, 1965

On Airways Tour



Mr. N. C. Mosley, vice president of the American Express Co., and William H. Mosley of the Los Angeles Chamber of Commerce, presiding, on the subject of "The Future of the American Commercial Airplane," Mr. Mosley declared that in the next few years, and as a result of more than 100,000 miles of flight, major Mosley will study operations, planes or jet engines or test, while Mr. Mosley will make a survey of the transportation industry.

Drillin passed the tests before the starting hour as trained and original position as Number One down the runway. This was done to compensate the men ready to go for voluntarily delaying their start and allowing the unqualified their a routine chance for the event.

H. D. MacDonough, personal representative of Dele in Oakland, said he could see no objection to the postponement.

With one or two exceptions, the firms and others known as serious critics agreed that the postponement would be a benefit to the cause of aviation as leading to dramatic cancellation. They also said it would permit the pilots and navigators to rest before taking off, which could not have been done by many of them had the take-off hour been retained as originally fixed.

As the agreement stands, those failing to qualify by 24 hours prior to the new starting hour will not be eligible for the return.

An American goes to green zone planes, with their pilots and waiters are awaiting the word to speed down the runway at Oakland Airport and take off for Havana, 3,400 miles away. Ten minutes will elapse between take off. The

1. At stratus looks like old men as follows —
 1. The mossy-blue *Cidichneus*, piloted by Bennett Gillis, at Al. Henry, nearshore.
 2. The *Chelodactylus*, Sam Dugan, pilot of the monomysine *El Escamado*, with David K. O. Hawkins, Sam Dugan, is the recorder's schola.
 3. *Chelodactylus* C. Irving, war war, flying alone in a Krocse monomysine.
 4. Jack Frost, piloting the San Francisco monomysine *Golden Eagle*, navigated by Gordon Smith at Santa Monica.
 5. The *Chelodactylus*, piloted by V. E. Krocse, Sam Dugan, navigator, nearshore; Wilfred Daves, twenty-two-year old Monomysine school teacher, to passenger.
 6. Charles W. Parkhurst at El Escamado, piloted by the captain of the *Chelodactylus*, piloted by E. Krocse, Jr., at Santa Monica City, Mo. The plane is the smallest in the zoo.
 7. Martin Jensen, twenty-one-year old San Diego from the *Chelodactylus*, carrying four passengers, piloted by V. E. Krocse, Jr., at Santa Monica City, Mo. The plane is the second in the zoo.
 8. The *Chelodactylus*, piloted by V. E. Krocse monomysine piloted by the captain of the *Chelodactylus*.
 9. Arthur O'Neil, Hollywood, about San, piloting a monomysine navigated by Lark, with Sam Dugan, pilot of the *Chelodactylus*, piloted by V. E. Krocse, Jr., at Santa Monica City, Mo. The plane is the third in the zoo.
 10. William K. O. Hawkins, piloting the Dallas flyer, navigated by S. H. Edwards.



THE TRANSLATION below using parentheses which occurred during a test flight
PRACTICE WHAT YOU PREACH ... USE THE AIR MAIL

PICTURES IN THE NEWS



ABOVE: The well known game of African golf as it is played on a Los Angeles, Calif., airfield. From the photo it will be noted that some lucky pilot has "blown" a zero.



LOWER LEFT: A perfect formation of British two-seaters passing over the stands at the recent Royal Air Force Display held at Hendon Aerodrome, England.



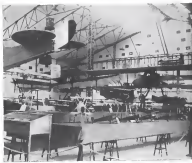
BELOW: A long form photograph of six parachute jumpers getting off simultaneously from three English bombers in day pan over Hendon Aerodrome, England, during the recent R.A.F. Display.



ABOVE: The U. S. Army dirigible H-3, coming to earth at Bolling Field during its recent trip through the East. The craft was accompanied by Coast. Cad. John A. Fugle and carried a crew of 14 officers and enlisted men.

LEFT: Commander T-46, James Gordon War, who plans shortly to pilot a plane from Germany to the U. S. via the Arctic and the Bermuda Island.

BELOW: An aerial view of a section of Pennock's aviation museum located in an old hangar near Madison, between Peru and Versailles. The newest addition is the airplane wreckage dropped by the German aircraft, Koenigsmann and Doh.



Lowell, Mass.

Plans are under way for the development of a 120 acre tract of land in South Lowell. A modern airport will be situated on this property, which was formerly a parking ground for the U. S. Cavalry Co.

Springfield, Mass.

Miss Thelma Beebe, who has been entertaining Long Island with her show flying, is scheduled to appear at the air pageant to be held here Sept. 3, 4 and 5, and will be one of the headliners of the meet. She will be accompanied by Ferns Burnside, her manager, who will do his air stunts also.

The Springfield Air Pageant looks into a definite show. Dean Field, the operating base of Springfield Airlines, Inc., has been leased by that company for the three days of the pageant and extensive preparations are planned for lighting for night flying. A large number of pilots and a variety of types of vehicles have been secured. One of the first acts of the meet will be the three crossed runs from the field to Hartford, Worcester and others. The program also includes parachute drops, formation flying and an exhibition of the planes by the public. Skiering, traction, football and football (American) will be among the visiting plans.

The Chamber of Commerce is planning an arrangement with the Central Air Transport but does not want to see the city, Northampton and Holyoke. The plan would call for a "four-day" run to see daily as the above cities to adjust the meet and connect with the regular Boston-New York plane at Hartford. The company has set a provision of at least 40 lb. of mail each day before it can inaugurate the service. The Chamber of Commerce is considering the manufacturing plants and business houses for uniformity of the support the project might attract. A fire at the hotel here has renewed interest that they would welcome the service and their interest has made the promoters optimistic over the outcome of the scheme. At present the air mail has to be sent to Hartford by train and for this reason the ad-

vantage of the system are relinquished in the matter of local business men. It is thought that with the starting of service by plane to Hartford the use of air mail will show a great increase.

Syracuse, N. Y.

By John S. Postle

A novel method of fundraising means of the city with the Municipal air port was used successfully here Sunday, Aug. 15. The air screen open to the public was put on by local pilots.

The program, arranged by Gordon K. Hood, manager of the port, with an eye to safety, was one which provided thrills for the 15,000 persons who flocked to the field for the show. It included wing walks, parachute jumps and numerous stunts with the planes.

"The Flying Dutchman," an aerial acrobat who is known only by that name to the public in this section, was a feature of the performance. He made several parachute jumps and did some stunts while making the new Home Boulevard of City Highway. He also, recently added to the list at the port here.

Other pilots who participated in the circus were Dr. H. B. Lathrop, Mr. Hood, Ernie H. Hunsman, and George Freeman.

Commander Richard B. Boyd and two Navy planes will land at the port Sunday, Aug. 22. Commander Boyd will attend the New York State Fair here Aug. 30 and 31, and the Navy Department has offered two planes, one a biplane, the other a patrol as an event in the maneuver.

The Syracuse Chapter, National Aeronautic association, will give Commander Boyd and other pilots here in connection with his visit a banquet during one of the two meetings. Plans for the affair have been completed by a committee appointed by Mr. Hood, president of the chapter.

Mr. Hood, Dr. Lathrop, Mr. Freeman and Mr. Hunsman drew

to Rochester Wednesday, Aug. 16, to be in the group including Clarence Chubb and Tom Beebe to their city. The two famous pilots flew there from New York in a biplane without a scheduled flying field there.

Work of further developing the Syracuse port will begin immediately if it was accepted last week by Mayor Charles G. Hagan. The entire field will be plowed in sections and leveled and seeded with grass seed. It will then be an airway port.

Wauhan, Wis.

Wauhan has been promised an airport through the generosity of two citizens, Ron and John Alexander, who are to acquire the system to lease property outside the city for a term of five years with the privilege of purchase at the end of that time. The large plot is to be improved at once and all expenses will be paid by the Alexanders. There is to be no liability on the part of the city residents, except that the members of the present council give so their opinion that if a new airport is to be developed and it is shown there is a need for a local field, then the city should take over the lease and operate the field as a municipal concern.

Madison, Wis.

A new aeronautical organization which will participate in all forms of commercial aviation, has been formed in Madison and incorporated. The name of the concern is the Midwest Air Transport Company, the head of formation of which is Charles W. A. Hendry, R. W. Haddock, and Dr. A. J. Haddock.

Madison's first aviation meet will be held at that city at Franco Field Aug. 22, officials of the Madison Aeronautic association reported. This will coincide with the visit of Colonel Charles E. Lindbergh and the Dune County fair and will attract visiting aviators on exhibits of thousands of people.

Invitations have been sent to commercial lines and stunts

are to participate in the events to be held. The big Stearman and Old plane, Standard, will be among the planes, while Colonel Paul Henderson, president of the National Airports Transport Company of Chicago, is being invited to bring several of his big biplanes to Madison for the meet.

The company has leased a 100 acre field a short distance from the city which will be marked with the regulation signs, and work on a hangar will be started within a week. At present the program of the company will consist of passenger service, cross country trips, and a school for them. The firm will have the state agency for a well known airplane, and Mr. Hendry will for Chicago this week to get two planes which will serve as the nucleus of a fleet.

Chattanooga, Tenn.

The people of Chattanooga will rely on a \$100,000 bond issue Sept. 1, the proceeds of which, if it carries, will be used to purchase and equip an airplane training field. The city at present, lacks a tract of land which is used for the purpose, known as Macy Field. Although this is really accurate, it is held by experts to be of confidence as to meet the future demands of the community.

Arrangements have been completed by John Lindbergh, manager of the Hood Project and an aviation enthusiast to have Colonel Lindbergh visit this city on the trip he is now making in the interest of commercial aviation. In this connection the town of Jackson, Missouri is now conducting a six-day tour of the town of the city of the capital from the east to the west coast of the famous mountain where the "Belle Above the Clouds" was built in 1933, to be named Lindbergh highway. Arrangements are being made on the highway for thousands of people to gather where they may see the famous flyer land in the Chattanooga valley.

The Chattanooga Automobile club is the last regular meeting meeting the matter of changing the name to the Chattanooga Auto and Aerial club, many members being interested



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BESHOVER wanted, who has specialized on flying boats. Box 575 AVIATION

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YOUNG MAN with experience on motor wants to associate with someone who builds, repairs and flies airplanes. Would make a first class helper; one who needs assistance. Good references. Box 677, AVIATION

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NEW LIBERTY 12-41000. New and unused Packard 400 hp. Liberty 12 engine for sale. Post \$1800 tubes & Ore 30 amp at Fordville Airplane Mfg. Corp., Farmingdale, L. I., N. Y.

1200 WING EAGLEBOOK streamlined and reinforced for National Air Tour. Has all equipment and passed Dept. of Commerce for transport license. New OXS motor, 120 hp. cost \$2000. Post \$1000. Box 6, Seattle, Branch 1046, Oklahoma City, Okla.

PARACHUTE, new and used for exhibition and emergency drops, rope ladders for stunt men, etc. Speedy delivery. Established 1903. Thompson Bros. Bellows Co., Ames, Ia.

D. H. MOTTE—FOR SALE: Two motor, folding wings, rubber-compass landing gear, with 80 hp. Gross Air-Cooled Motor. The ship has won the last two "Cruiser" Races in England, but also has landing record. Perfect condition, 60 hp. use. K. B. Walker, 1714 Atlantic Ave., Atlantic City, N. J., or Harry Van Wagner, Curtiss Flying Service, Garden City, N. Y.

FOR SALE: OXS Vee and two-glass LWF, both in excellent condition; both motors like new. J. H. Behmer, Idaho, Pa.

FOR SALE: Entire stock airplane material, motors, OXSs, Box 259, Marquette, Maine. Monoplane wing for JST-1; set high lift wings \$180; fuselage parts; propellers; engine for motor boats. Rexford Free, Rockwood, Ind. Box 146.

FOR SALE: Ford motor commercial car airplane 35 hp. new and complete including wheels. Box 2543 wheels new and tubes \$100. Lawrence Bishop, New, Ala.

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\$20000 takes my licensed license just overhauled and improved. Making money every day. Will give purchaser one half interest while learning to fly. Eugene Herli, Statesville, New York.

FOR SALE: New shipped wing Standard; one 155 motor section back, one used OXS motor. Prices negotiable. South Machine & Aircraft Co., 15 N. Alexander St., Danville, Ia.

FOR SALE: New OXS three plane Army, last flown July 4, 1937. New colored dash from. Post \$200 tubes. G. Ganser, Blue Mount, Ill.

EQUIPMENT WANTED

WANTED: 35 OXS motor, brand new, complete with tools. Box 575, AVIATION

WANTED: Curtiss JN-4 or Standard J3, low motor. State condition, price and motor used. J. C. Sanders, Box 301, East Akron, Ohio.

WANTED: Used Waco, Travel Air, Laird or similar OXS job, also second OXS motor. State full particulars and low price for quick cash sale. H. Wachs, 720 So. Railway Bldg., Cincinnati, O.

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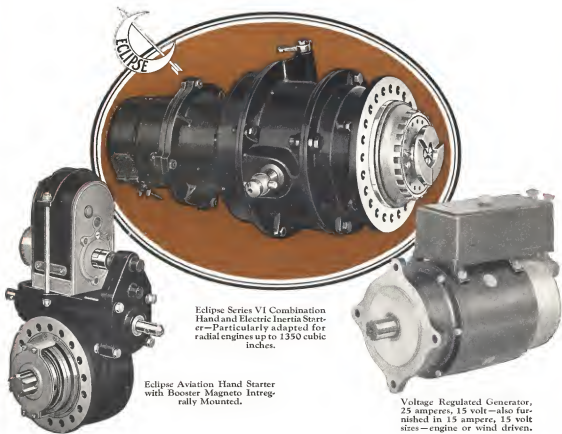
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